YOUR 1960 EDITORIAL INDEX

WELDING ENGINEER, Volume 45

January to December, 1960, inclusive

Editor's Note: For your convenience, the original titles of all articles appearing in WELDING ENGINEER *during 1960 have been boldfaced. All other entries are cross-references only.*

AUTHORS

Ascenzi, C. J., Aug., p. 42
Bastion, Charles, Oct., p. 60
Battema, John P. Jr., June, p. 36
Bobbin, John E., June, p. 41
Buell, S. J., Aug., p. 43; Dec., p. 37
Burkhardt, R. A., July, p. 25
Cantor, Irwin G., Nov., p. 38
Carey, Howard B., Aug., p. 36; Oct., p. 36
Chuse, Robert, June, p. 34
Cunningham, Raymond, Apr., p. 46
Deily, Richard L., May, p. 42
Dolan, J. J., March, p. 54
Donelson, Stanley, July, p. 40
Duessing, Ernst, Jan., p. 32
Eitelman, H. E., July, p. 56
Fallek, M. E., Aug., p. 40
Fess, W. G., Nov., p. 63
Franz, R. J., Aug., p. 46
Gerken, Dr. J. M., Nov., p. 36
Gorson, R. Q., June, p. 38
Goss, Jesse E., Aug., p. 37
Gray, John R., Feb., p. 38
Green, J. P., Feb., p. 29
Grubish, S. A., Oct., p. 33
Haessler, Werner K., July, p. 34
Hanson, A., Nov., p. 63
Hessemer, Fritz M., Feb., p. 32
Himmelberger, F., Nov., p. 59
Hodska, Nicholas S., March, p. 37; Sept., p. 30
Jefferson, T. B., Mid-June, p. 14
Kittle, D. B., Nov., p. 46
Kobler, J. S., Apr., p. 44
Lytton, C. W., July, p. 46
MacDonald, R. R., Sept., p. 29
Major, Forest S., Feb., p. 48
Marks, A. H., Apr., p. 76
May, Richard W., Apr., p. 82
McBurney, L. L., Aug., p. 40
Medsker, George A., Nov., p. 60
Melton, Jim, May, p. 46
Merritt, Ralph N. S., Dec., p. 41
Miller, Charles H., March, p. 40
Miller, Harry J., Sept., p. 44
Near, R. A., Aug., p. 42
Nemitz, William C., Nov., p. 52
Olson, Harlan, Sept., p. 36
Palmer, A. B., March, p. 62
Pavesic, E. J., Feb., p. 50
Phelps, Herman, Aug., p. 41; Dec., p. 33
Reichle, D. S., Aug., p. 43
Reynolds, John A., June, p. 32
Rhodie, Ken, Feb., p. 68
Richardson, L. D., Mid-June, p. 5
Ronay, Bela, Jan., p. 28; March, p. 32; Apr., p. 56; July, p. 56
Saacke, F. C., Nov., p. 58
Schneider, W. R., Sept., p. 58
Scott, Gerald, Oct., p. 47
Silver, Irv, Sept., p. 50
Simms, Forde M., Dec. p. 50
Sorflaten, C. G., July, p. 25
Sterrett, Elton, Apr., p. 88
Strebelle, J. R., Oct., p. 44
Swift, Alden W., Oct., p. 52
Tancula, F. T., Jan., p. 30; Jan., p. 48; March, p. 30; Oct., p. 40; Nov., p. 45; Dec., p. 48
Theiler, Fred E., Apr., p. 76
Thomas Morris D., Aug., p. 39
Toles, George E., March, p. 50
Voelker, C. H., Dec., p. 46
Warinsky, John V., Dec., p. 50
Weil, E. H., March, p. 34
Williams, Douglas D., Sept., p. 40; Nov. p. 40
Wilson, R. A., Oct., p. 50
Young, Otis, Sept., p. 34
Zvanut, Albert J., Feb., p. 40

FEATURE ARTICLES

A

Accessories for pipe welding Oct., p. 62
Acetylene torches heat tools for plastic pipe fusion, Oct., p. 35
Adhesive "spot welds" hood assembly, Sept., p. 52
AEC experiments with ultrasonics to join fuel elements, July, p. 41
Air cylinder system betters resistance welds, March, p. 62
Airless blast cleans metal furniture, Dec. p. 63
Alloy provides rust-proof tanks, Oct., p. 78
Alloy Rods Co. celebrates 20th year, Sept., p. 68
All-welded coal hauler can carry five times its own weight, Apr., p. 50
All-welded pipeline replaces wooden aqueduct, July, p. 46
Aluminum cable, how to connect, July, p. 25
Aluminum cones, Mig welded, house optical systems, May, p. 44
Aluminum duct built by Tig welding, June, p. 76
Aluminum elevator welded on first nuclear carrier, Sept., p. 48
Aluminum panels, portable, form landing strip, Nov., p. 74
Aluminum pipeline makes steady gains, Oct., p. 58
Aluminum piping Mig, Tig welded for natural gas distribution, Apr., p. 94
Annealing of gears aided by induction equipment, Apr., p. 106
Annual convention to discuss safety, acetylene uses and cryogenics, May, p. 41
Applying proper welding process saves time and money for this manufacturer, March, p. 54
Arc-air slices costs of locomotive repairs, Jan., p. 53
Arc-air torch proves economical in weld removal on jet tail cones, Nov., p. 76
Arc welding design awards, Jan., p. 32
Arc welding fabricates a giant earth excavator, Sept., p. 34
Arc welding radar antennas for arctic service can be easy, Sept., p. 58
Arc welding's important factor is polarity, March, p. 32
Arc welding speeds frame fabrication, May, p. 50
Argonne Laboratory studying metal embrittlement, Jan., p. 41
Army engineers use Mig process to build airborne water purifier, July, p. 49

YOUR 1960 EDITORIAL INDEX

WELDING ENGINEER, Volume 45

January to December, 1960, inclusive

Editor's Note: For your convenience, the original titles of all articles appearing in WELDING ENGINEER *during 1960 have been boldfaced. All other entries are cross-references only.*

AUTHORS

Ascenzi, C. J., Aug., p. 42
Bastion, Charles, Oct., p. 60
Battema, John P. Jr., June, p. 36
Bobbin, John E., June, p. 41
Buell, S. J., Aug., p. 43; Dec., p. 37
Burkhardt, R. A., July, p. 25
Cantor, Irwin G., Nov., p. 38
Carey, Howard B., Aug., p. 36; Oct., p. 36
Chuse, Robert, June, p. 34
Cunningham, Raymond, Apr., p. 46
Deily, Richard L., May, p. 42
Dolan, J. J., March, p. 54
Donelson, Stanley, July, p. 40
Duessing, Ernst, Jan., p. 32
Eitelman, H. E., July, p. 56
Fallek, M. E., Aug., p. 40
Fess, W. G., Nov., p. 63
Franz, R. J., Aug., p. 46
Gerken, Dr. J. M., Nov., p. 36
Gorson, R. Q., June, p. 38
Goss, Jesse E., Aug., p. 37
Gray, John R., Feb., p. 38
Green, J. P., Feb., p. 29
Grubish, S. A., Oct., p. 33
Haessler, Werner K., July, p. 34
Hanson, A., Nov., p. 63
Hessemer, Fritz M., Feb., p. 32
Himmelberger, F., Nov., p. 59
Hodska, Nicholas S., March, p. 37; Sept., p. 30
Jefferson, T. B., Mid-June, p. 14
Kittle, D. B., Nov., p. 46
Kobler, J. S., Apr., p. 44
Lytton, C. W., July, p. 46
MacDonald, R. R., Sept., p. 29
Major, Forest S., Feb., p. 48
Marks, A. H., Apr., p. 76
May, Richard W., Apr., p. 82
McBurney, L. L., Aug., p. 40
Medsker, George A., Nov., p. 60
Melton, Jim, May, p. 46
Merritt, Ralph N. S., Dec., p. 41
Miller, Charles H., March, p. 40
Miller, Harry J., Sept., p. 44
Near, R. A., Aug., p. 42
Nemitz, William C., Nov., p. 52
Olson, Harlan, Sept., p. 36
Palmer, A. B., March, p. 62
Pavesic, E. J., Feb., p. 50
Phelps, Herman, Aug., p. 41; Dec., p. 33
Reichle, D. S., Aug., p. 43
Reynolds, John A., June, p. 32
Rhodie, Ken, Feb., p. 68
Richardson, L. D., Mid-June, p. 5
Ronay, Bela, Jan., p. 28; March, p. 32; Apr., p. 56; July, p. 56
Saacke, F. C., Nov., p. 58
Schneider, W. R., Sept., p. 58
Scott, Gerald, Oct., p. 47
Silver, Irv, Sept., p. 50
Simms, Forde M., Dec. p. 50
Sorflaten, C. G., July, p. 25
Sterrett, Elton, Apr., p. 88
Strebelle, J. R., Oct., p. 44
Swift, Alden W., Oct., p. 52
Tancula, F. T., Jan., p. 30; Jan., p. 48; March, p. 30; Oct., p. 40; Nov., p. 45; Dec., p. 48
Theiler, Fred E., Apr., p. 76
Thomas Morris D., Aug., p. 39
Toles, George E., March, p. 50
Voelker, C. H., Dec., p. 46
Warinsky, John V., Dec., p. 50
Weil, E. H., March, p. 34
Williams, Douglas D., Sept., p. 40; Nov. p. 40
Wilson, R. A., Oct., p. 50
Young, Otis, Sept., p. 34
Zvanut, Albert J., Feb., p. 40

FEATURE ARTICLES

A

Accessories for pipe welding Oct., p. 62
Acetylene torches heat tools for plastic pipe fusion, Oct., p. 35
Adhesive "spot welds" hood assembly, Sept., p. 52
AEC experiments with ultrasonics to join fuel elements, July, p. 41
Air cylinder system betters resistance welds, March, p. 62
Airless blast cleans metal furniture, Dec. p. 63
Alloy provides rust-proof tanks, Oct., p. 78
Alloy Rods Co. celebrates 20th year, Sept., p. 68
All-welded coal hauler can carry five times its own weight, Apr., p. 50
All-welded pipeline replaces wooden aqueduct, July, p. 46
Aluminum cable, how to connect, July, p. 25
Aluminum cones, Mig welded, house optical systems, May, p. 44
Aluminum duct built by Tig welding, June, p. 76
Aluminum elevator welded on first nuclear carrier, Sept., p. 48
Aluminum panels, portable, form landing strip, Nov., p. 74
Aluminum pipeline makes steady gains, Oct., p. 58
Aluminum piping Mig, Tig welded for natural gas distribution, Apr., p. 94
Annealing of gears aided by induction equipment, Apr., p. 106
Annual convention to discuss safety, acetylene uses and cryogenics, May, p. 41
Applying proper welding process saves time and money for this manufacturer, March, p. 54
Arc-air slices costs of locomotive repairs, Jan., p. 53
Arc-air torch proves economical in weld removal on jet tail cones, Nov., p. 76
Arc welding design awards, Jan., p. 32
Arc welding fabricates a giant earth excavator, Sept., p. 34
Arc welding radar antennas for arctic service can be easy, Sept., p. 58
Arc welding's important factor is polarity, March, p. 32
Arc welding speeds frame fabrication, May, p. 50
Argonne Laboratory studying metal embrittlement, Jan., p. 41
Army engineers use Mig process to build airborne water purifier, July, p. 49

Assembling carefully can cut fabrication costs, Feb., p. 48
Author clarifies his penetration statement, July, p. 56
Author Ronay promises to dispel confusion about polarity and penetration, May, p. 80
Automated welding speeds production of laundry cabinets, May, p. 62
Automatic CO_2-Mig welding increases heat exchanger production up to 65%, Aug., p. 44
Automatic cutter saves firm time, money, July, p. 44
Automatic resistance welder keeps costs low, Oct., p. 77
Automation, welding help build Valiant, March, p. 50
Automotive field uses multiple-power sources, Jan., p. 30
AWS annual convention, welding show expected to draw 25,000 persons, Apr., p. 35
AWS keynoter warns of complacency, Nov., p. 64

B

Better controlled dimensions with magnified template drawings, May, p. 42
Better products guaranteed by process control, welded design, Nov., p. 52
Better resistance welds through double acting air cylinder system, March, p. 62
Big boom used to fabricate nuclear unit, July, p. 31
Billion dollar year for welding industry recorded, Mid-June, p. 14
Blade for land clearing submerged-arc welded, Apr., p. 46
Blast furnace hardfacing provides large savings, June, p. 60
Bracket design simplified through welding, Jan., p. 36
Brazing and welding in the piping industry, Oct., p. 31
Brazing cuts valve housing cost 40%, Jan., p. 42
Brazing furniture with liquid flux, May, p. 64
Brazing honeycomb in cold-wall furnaces, May, p. 54
Brazing of pipe, Oct., p. 52
Brazing preforms, how to design for their use, Sept., p. 36
Brazing produces smooth surfaces for cab doors, Nov., p. 60
Brazing used for tube cooling parts, Dec., p. 57
Bridge design winners make use of welding, March, p. 29
Bridge girders welded for a national park, Feb., p. 38
Bridge in Minnesota is submerged-arc welded, Nov., p. 63
Bridges, buildings of welded steel win awards, Dec., p. 42
Brittle fracture, fundamentals of, Jan., p. 28
Brittle fracture under study at Argonne, Jan., p. 41
Brown heads iron group, Apr., p. 102
Building frames fabricated by manual arc welding, May, p. 50
Build-up and hardfacing used on grab bucket, March, p. 66
Build-up electrodes, production, properties, uses, **Feb., p. 40**

C

Cab doors have smooth surfaces due to brazing, Nov., p. 60
Cable, aluminum, how to connect it, July, p. 25
Canadian mill turns out large diameter pipe, Oct., p. 72
Carbon dioxide magnetic flux process reduces oil tank welding time, Aug., p. 43
Carbon dioxide-Mig welding increases production on heat exchanger, Aug., p. 44
Carbon, stainless steel welded in fabrication of centrifugal mills, Nov., p. 50
Careful assembling can cut fabrication costs, **Feb., p. 48**
Cars, welded, travel on welded carriers, **Nov., p. 43**
Case hardening without hardfacing, Feb., **p. 50**
Cast-iron repair aided by quenchable deposits, May, p. 60
Cavitation, is it caused by bubbles?, Sept., p. 29
Centrifugal mills fabricated with welded stainless steel, carbon, Nov., p. 50
Chicago high school is producing trained welders for industry, Feb., p. 68
Circumstances and job requirements govern selection of radiation source in inspection, June, p. 32
Close tolerances on turbine held by furnace brazing, Dec., p. 52
Coal hauler carries five times its weight, **Apr., p. 50**
Coal mining aided by hardfacing, Apr., p. 64
Coated metals joined by spike welder, Apr., p. 84
Coil fabrication depends on stainless steel, Oct., p. 74
College with welding engineering course established by industry, Aug., p. 39
Competition causes steel to plead its own case, July, p. 32
Complacency warned of by AWS keynoter, Nov., **p. 64**
Concrete and welding build Florida homes, Sept., p. 44
Control for spot welding makes ideal conditions for welding, Feb., p. 42
Controlled angle Tig torch simplifies cabinet welding, Dec., p. 50
Copper-nickel alloy provides rust-proof tanks, Oct., p. 78
Copper piping problem solved by silver-bearing solder, Oct., p. 60
Cost and time used decreased by proper process, March, p. 54
Cost cutting through careful assembly, Feb., p. 48
Cost of building cut by open-web steel frames, Apr., p. 76
Cost of fabrication, do you have a true picture?, Apr., p. 56
Cost of locomotive repairs cut by arc-air, Jan., p. 53
Cost of valve housing cut by brazing, Jan., p. 42
Cost of power piping lowered by automatic submerged-arc welding, Oct., p. 50
CO_2-Mig and submerged-arc test T1 steel, Apr., p. 52
CO_2-Mig used to advantage in crankshaft rebuilding, June, p. 64
CO_2 thin-wire process allows fully automatic roll welding of pipe, Oct., p. 36
Crankshaft rebuilding uses CO_2-Mig, June, p. 64
Cryogenic steel vessels withstand pressure, impact without stress relief, Dec., p. 38
Cutter gets long-wearing teeth due to two alloys, Nov., p. 72
Cutting flood walls with powder-cutting torch, Jan., p. 60
Cutting lathe manufacturing costs by redesigning for welding, Jan., p. 32
Cutting of metals by plasma flame unit promises many advantages, Dec., p. 33
Cutting with Tig boosts stainless steel sales, **June, p. 74**
Cylinders, welded, pass rigid tests for ICC approval, Nov., p. 80

D

Dam penstocks are submerged-arc welded, March, p. 34
Design bridges for welding, March, p. 29
Designing a lathe for welding, Jan., p. 32
Designing for preform brazing, **Sept., p. 36**
Designing machine brackets for welding, **Jan., p. 36**
Designing turbine runners for welded fabrication, **Feb., p. 32**
Design of reactor improved by zirconium alloy tubes, May, p. 58
Dipper of T-1 steel takes 70-cu-yd bites, **Apr., p. 42**
Distribution and fabrication are dual role of this pipe shop, Oct., p. 40
Distributor does his part in welding education, **Aug., p. 41**
Do you have a true picture of your fabrication costs?, Apr., p. 56
Dust units clear air, retain heat, July, p. 38

E

Economy, efficiency with hose reel, Apr., **p. 58**
Editorials — Meet the challenge, Jan., p. 21; The leading lady, Feb., p. 27; Another price casualty, March, p. 27; Be a promoter, **Apr.,** p. 33; The evil: complacency, May, p. 31; To be or not to be?, June, p. 27; Land of the free (handout), July, p. 23; Ignorance is not bliss, **Aug., p. 31;** A welding jackpot, Sept., p. 27; A little knowledge, Oct., p. 29; Industry's apathy, Nov., p. 35; The easy way, Dec., p. 31
Educate for welding, how to, Aug., p. 33
Education in welding aided by scholarship, Sept., p. 50
Efficiency of Tig unit upped from 99.75%, **July, p. 40**
Eighty-ft welded yacht a do-it-yourself project? Yes!, Dec., p. 48
Electrode for welding T-1 developed by Navy, Apr., p. 44
Electrode specification result of NEMA, Navy study, Nov., p. 37
Electron beam unit developed by German firm, March, p. 44
Electronically-guided flamecutter, arc welding build precision towers, Jan., p. 48
Electroslag welding of heavy sections, Jan., p. 46
Engineering Data Sheets: No. 232: Welding tip numbers compared, Jan., p. 57; No. 233: Preheat for steel alloys, Feb., p. 35; No. 234: Determining fillet strength, March, p. 39; No. 235: Mechanical properties of T-1, Apr., p. 41; No. 236: Liquid to gas equivalents, May, p. 71; No. 237: Four of the more common X-ray methods, June, p. 37; No. 238: Comparison chart of X-ray film, June, p. 47; No. 239: Hardness conversion chart, July, p. 55; No. 240: Estimating costs for manual oxyacetylene welding, Aug., p. 63; No. 241: Determining weld heat efficiency, Sept., p. 31; No. 242: Testing welded pipe joints, Oct., p. 69; No. 243: Trade names of electrodes and comparable AWS-ASTM designation, Nov., p. 71; No. 244: Application range for low temperature steels, Dec., p. 39
Environment, space are safety factors in locating an oxygen plant site, Nov., p. 59
Excavator moves earth, is welded, Sept., p. 34
Exhaust units clear air, retain heat, July, p. 38
Exposition and safety congress draws 12,000, Dec., p. 44

F

Fabrication costs, do you have a true picture?, Apr., p. 56
Fatigue failure, causes and properties, Jan., p. 28
Fillet weld strength on angles, how to determine, March, p. 36
Fin-to-tube welding simplified by new method, March, p. 42
Fixtures of plastic are accurate, cost less, March, p. 40
Flame-cutting, arc welding for precision towers, Jan., p. 48
Flash welding of aluminum helped by pneumatic equipment, Apr., p. 82
Flaws quickly discovered by ultrasonic testing, June, p. 40
Floor load capacity doubled with help of welded studs, Nov., p. 38
Fluoroscopy gets "inside" pipe, June, p. 54
For surface and near-surface inspection, use penetrants and magnetic particles, June, p. 44
Fundamentals of brittle fracture, Jan., p. 28
Fundamentals of oxyacetylene welding, May, p. 38
Fundamentals of projection welding, Nov., p. 40

Fundamentals of wear resistant overlay, Mid-June, p. 5
Furnace brazing holds close tolerances on turbine, Dec., p. 52
Furnace brazing honeycomb for aircraft, May, p. 54
Furnaces normalize storage and recovery pipe line, Apr., p. 88
Furniture firm adopts liquid flux, boosts production, May, p. 64
Future of the gas industry, May, p. 35
Future of welding in the next decade, Jan., p. 23

G

Gamma and X-ray compared, June, p. 32
Gamma and X-radiographs, how to interpret, June, p. 34
Gamma and X-ray needs anticipated by manufacturers, June, p. 36
Gamma and X-ray used in pipeline construction, Oct., p. 44
Gas and oil transportation by pipeline requires coordination, trained weldors, Oct., p. 38
Gas welding and cutting, its past, present and future, May, p. 35
Gas welding torch, its 60th year, May, p. 33
Geodesic dome supported by welding, March, p. 48
German firm develops electron beam unit, March, p. 44
Giant dipper takes 70-cu-yd bites easily, Apr., p. 42
Giant railroad tank car has 21,700 gal capacity, March, p. 64
Grinding safety hinges on following the rules, Dec., p. 41

H

Hardening without hardfacing, Feb., p. 50
Hardfacing aid to coal mining, Apr., p. 64
Hardfacing gives ore chutes longer service life, Aug., p. 53
Hardfacing gives pump plungers longer life, March, p. 68
Hardfacing on blast furnace gives big savings, June, p. 60
Hardfacing (wear resistant overlay) fundamentals, Mid-June, p. 5
Heating prior to welding, a guide, Feb., p. 34
Heat is chief factor in determining weld quality, Sept., p. 30
Heavy sections joined by electroslag, Jan., p. 48
Honeycomb brazed in cold-wall furnace, May, p. 54
Hose reel provides efficiency, economy, Apr., p. 58
How to braze piping, Oct., p. 52
How to connect aluminum welding cable, July, p. 25
How to design for preform brazing, Sept., p. 36
How to design tee-joints for piping, Oct., p. 33
How to determine required strength of fillet weld on angles, March, p. 37
How to educate for welding, Aug., p. 33
How to establish a program for radiation safety, June, p. 38
How to interpret radiographs, June, p. 34
How to simplify machine bracket design, Jan., p. 36
How to use radiography in pipeline construction, Oct., p. 44
How to weld T-1 steel, Apr., p. 38

I

IAA to meet in San Francisco, May, p. 41
ICC approval given to welded cylinders, Nov., p. 80
Idaho dam's penstocks rely on submerged-arc welding, March, p. 34
Importance of non-destructive testing in quality control, June, p. 30
Importance of polarity in arc welding, March, p. 32
Important facts about industrial adhesives, Feb., p. 31
Induction equipment speeds gear annealing, Apr., p. 106
Induction heating forms plier handles, Dec., p. 58
Induction heating gives precise heat control, mobility, July, p. 34
Industrial adhesives, important facts, Feb., p. 31
Industry gets all-around weldors from manufacturer's school, Aug., p. 36
Industry lends a hand, establishes college with welding engineer course, Aug., p. 39
Inspection by portable X-ray units used extensively, June, p. 52
Inspection by ultrasonics is fast, economical, June, p. 40
Inspection set-up for quality control can be easy, July, p. 28
Interpretation of radiographs, how to do it, June, p. 34
Is cavitation caused by bubbles?, Sept., p. 29

J

Jet fuel line is Mig welded, Nov., p. 49
Jet tail cone weld removal by arc-air torch proves economical, Nov., p. 76
Joints for pipe can be laid out easily with proper tools, Oct., p. 42

L

Landing strip formed by portable aluminum panels, Nov., p. 74
Large savings claimed in blast furnace hardfacing, June, p. 60
Layout of pipe joints can be easy with proper tools, Oct., p. 42
LA Welding Show attendance falls far short of estimate, June, p. 56
Liquid flux cuts bracket weld time, June, p. 58
Liquid fluxing eliminates stains, Nov., p. 65
Liquid oxygen converters are Tig welded, Feb., p. 29
Load capacity of floor doubled with help of welded studs, Nov., p. 38
Localized stress relief of pipe is simplified, Oct., p. 47
Locomotive repair costs cut with arc-air, Jan., p. 53
Long-wearing teeth given to cutter by two alloys, Nov., p. 72
Los Angeles convention, show expected to draw 25,000, Apr., p. 35

M

Magnetic particles, penetrants used for inspection, June, p. 44
Manufacturers anticipate, meet radiographic needs, June, p. 36
Manufacturer's school provides industry with all-around weldors, Aug., p. 36
Many advantages gained when redesigning turbine runners for welded fabrication, Feb., p. 32
Medium frequency induction heating provides precise heat control, mobility for stress relieving, July, p. 34
Metal furniture cleaned by airless blast, Dec., p. 63
Metal spray solves many surfacing problems, Oct., p. 86
Midwest firm calls for industry participation in welding education, Sept., p. 50
Mig, submerged-arc join wind tunnel parts, Dec., p. 37
Mig, Tig welded aluminum gas lines, Apr., p. 94
Mig, Tig welding builds aluminum mine cars, July, p. 37
Mig welded cones house optical systems, May, p. 44
Mig welded raft gets Coast Guard approval, May, p. 72
Mig welding builds airborne water purifier, July, p. 49
Mig welding helps to build large swimming pool, Apr., p. 75
Mig welding reduces production time 70%, May, p. 68
Mig welding used on jet fuel line, Nov., p. 49
Mill turns out large diameter pipe in Canada, Oct., p. 72
Mill welds spiral pipe on site, Nov., p. 79
Mills, centrifugal, fabricated with welded stainless steel, carbon, Nov., p. 50
Mine cars built with Mig, Tig welding, July, p. 37
Mining equipment manufacturer has diversified product line-up, March, p. 30
Minnesota bridge submerged-arc welded, Nov., p. 63
Missile optical systems housed in Mig welded aluminum cones, May, p. 44
More than million welds dot nation's railways, Nov., p. 45
Motor connections made with Tig welding, Apr., p. 60
Mower adjusting mechanism simplified by stud-welding, Sept., p. 72
Muffler furnaces normalize pipe welds, Apr., p. 88
Multiple-power sources invade automotive field, Jan., p. 30
Multi-spot welders ensure minimum weight, maximum strength, Feb., p. 58
Multi-story motel raised by welding, March, p. 41

N

Navy develops electrode for welding T-1 steel, Apr., p. 44
Neither combustible nor explosive, oxygen is often miscalled, Nov., p. 58
New electrode developed by Navy for welding dynamically-loaded T-1, Apr., p. 44
New electrode specification result of NEMA, Navy study, Nov., p. 37
Newer hardfacing method protects surfaces longer, March, p. 68
Newest electron beam entry is German, March, p. 44
New method simplifies fin-to-tube welding, March, p. 42
New spot welding control makes its own ideal welding conditions, Feb., p. 42
Nickel steel vessels, welded, withstand pressure, impact without stress relief, Dec., p. 38
NOIMA elects J. W. Brown president, Apr., p. 102
Non-destructive testing — an important factor in quality control, June, p. 30
Normalizing pipe welds with muffler furnaces, Apr., p. 88
Nuclear reactor components inspected by ultrasonic, gamma, X-ray, June, p. 68

O

Offensive is taken by steel, Nov., p. 82
Oil industry aided by welding in vessel construction, Aug., p. 42
One distributor carries customer service into welding education, Aug., p. 41
Open-web steel frames cut building costs, Apr., p. 76
Ore chute service life increased with hardfacing, Aug., p. 53
Overlaying with stainless steel increased turbine blade life, Sept., p. 29
Oxyacetylene courses de-emphasized, survey shows, Aug., p. 40
Oxyacetylene cutting automated for savings, July, p. 44
Oxyacetylene cutting with magnified templates, May, p. 42
Oxyacetylene pressure welding of rail arrives at the push-button stage, Nov., p. 44
Oxyacetylene welding, fundamentals of, May, p. 38
Oxy-fuel cutting process of mild steel has competition from plasma flame, Dec., p. 33
Oxygen converters for jets are Tig welded, Feb., p. 29
Oxygen is neither combustible nor explosive; often miscalled, Nov., p. 58
Oxygen plant site location should involve safety factors of space, environment, Nov., p. 59

P

Parker, C. M., warns AWS of complacency, Nov., p. 64
Penetrants, magnetic particles used for surface, near-surface inspection, June, p. 44

Penetration statement clarified by author, July, p. 56
Photoelectric control aids weld uniformity, May, p. 46
Pipe brazing, Oct., p. 52
Pipe fatigue tested by resonance bending, June, p. 62
Pipe inspected by fluoroscopy, June, p. 54
Pipe is automatically roll welded by thin-wire CO_2 process, Oct., p. 36
Pipe joint testing, Oct., p. 69
Pipe layout, preparation can be easy — with the proper tools, Oct., p. 42
Pipe localized stress relief is simplified, Oct., p. 47
pipe quality increased by Tig welded insert ring, Dec., p. 46
Pipe shop has dual role of distributor-fabricator, Oct., p. 40
Pipeline construction radiography, how to use, Oct., p. 44
Pipeline operation requires coordination, trained welders, Oct., p. 38
Pipelines of aluminum make steady gains, Oct., p. 58
Pipeline, welded, replaces wooden aqueduct, July, p. 46
Pipe system for ice skating ring passes inspection, Jan., p. 40
Pipe welding accessories, Oct., p. 62
Piping designs for tee joints, Oct., p. 33
Piping industry uses welding and brazing, Oct., p. 31
Piping used in radiant heat systems, Oct., p. 70
Plasma flame cutting of mild steel seen as competitive with oxy-fuel process, Dec., p. 33
Plastic pipe is easily joined by torch heat, Oct., p. 35
Piping problem (copper) solved by silver-bearing solder, Oct., p. 60
Plating rack costs cut with soldering, Jan., p. 62
Plier handles formed by induction heating, Dec., p, 58
Pneumatic equipment speeds aluminum flash welding, Apr., p. 82
Polarity and penetration article confuses readers, May, p. 80
Polarity is important in arc welding, March, p. 32
Portable aluminum panels form landing strip, Nov., p. 74
Portable mill welds spiral pipe on site, Nov., p. 79
Portable X-ray unit is basis of optimum inspection program, Sept., p. 43
Portable X-ray units see duty in many applications, June, p. 52
Powder cutting torch tumbles the flood walls, Jan., p. 60
Power piping costs lowered by automatic submerged-arc welding, Oct., p. 50
Power sources for multiple-operator use in automotive field, Jan., p. 30
Predictions for the sixties, Jan., p. 23
Predictions on gas industry's future, May, p. 35
Preform brazing, how to design for, Sept., p. 36
Preheat, a guide to, Feb., p. 34
Pressure welding of rail by oxyacetylene arrives at the push-button stage, Nov., p. 44
Process control, welded design guarantee better products, Nov., p. 52
Processes determine weldability of stainless steel, Aug., p. 46
Producing accurate poke weld fixtures, March, p. 40
Production increases up to 65% with CO_2-Mig welding, Aug., p. 44
Production line resistance welding of laundry cabinets, May, p. 62
Production, properties and uses of build-up electrodes, Feb., p. 40
Production system helps speed varied product line-up, March, p. 30
Product quality easily controlled with careful preparation, July, p. 28
Projection welding fundamentals, Nov., p. 40
Push-button stage arrives for oxyacetylene pressure welding, Nov., p. 44

Q

Quality control can be easy and accurate with careful preparation, July, p. 28
Quality control depends on non-destructive testing, June, p. 30
Quality control is a must when welding radar antennas, Sept., p. 58
Quality of welds determined chiefly by welding heat, Sept., p. 30
Quenchable deposits speed cast-iron repair, May, p. 60

R

Radar antennas quality controlled, Sept., p. 58
Radiant heat systems use welded piping, Oct., p. 70
Radiation safety, how to establish a program, June, p. 38
Radiation source selection depends on your needs, June, p .32
Radiographs, how to interpret them, June, p. 34
Radiography in pipeline construction, how to use it, Oct., p. 44
Radiography needs anticipated, met by manufacturers, June, p. 36
Rail pressure welded by oxyacetylene arrives at the push-button stage, Nov., p. 44
Railways of nation have more than million welds, Nov., p. 45
Reactor design improved by Zircaloy tubes, May, p. 58
Reactor fuel elements welded ultrasonically, July, p. 41
Reactor fuel elements welded with improved Tig unit, July, p. 40
Reclaiming eroded silver brazed parts, Feb., p. 57
Research develops low-temperature bonds, new flux, May, p. 78
Resistance spike welder joins coated metals, Apr., p. 84
Resistance spot welding theory and practice, Sept., p. 40
Resistance welder keeps costs low, Oct., p. 77
Resistance welding builds stainless transit cars, Aug., p. 58
Resistance welding speeds production of laundry cabinets, May, p. 62
Resistance welding method simplifies fin-to-tube joining, March, p. 42
Resistance welding on English auto uses multi-spot welders, Feb., p. 58
Resistance welding transformer gives high current, low amperage, Aug., p. 61
Resistance welds bettered by air cylinder, March, p. 62
Resonance bending tests pipe fatigue, June, p. 62
Rules are basis of safety in grinding, Dec., p. 41
Rust-proof tanks provided by alloy, Oct., p. 78

S

Safety congress and exposition draws 12,000, Dec., p. 44
Safety in grinding hinges on following the rules, Dec., p. 41
Safety program for radiation, how to establish one, June, p. 38
Sales for welding industry hit first billion dollar mark, Mid-June, p. 14
Saves $1,000 in drill press repair, May, p. 74
Saving of 70% when Mig welding aluminum containers, May, p. 68
Savings in time, money realized with automatic gas cutter, July, p. 44
Saving time and money by applying proper process, March, p. 54
Scholarship awarded for welding education, Sept., p. 50
Selection of radiation source depends on needs, June, p. 32
Silver-bearing solder solves copper piping problem, Oct., p. 60
Sixtieth year of the gas welding torch, May, p. 33
Skating rink uses welded pipe system, Jan., p. 40
Smooth surface for cab doors produced by brazing, Nov., p. 60
Soaring Sixties, The, Jan., p. 23
Soldering cuts production time, costs of plating racks, Jan., p. 62
Space, environment are safety factors in locating an oxygen plant site, Nov., p. 59
Spike welder uses short pulse, low power to join coated metals, Apr., p. 84
Spiral pipe welded on site by portable mill, Nov., p. 79
Spot welders in multiple series used on English auto, Feb., p. 58
Spot welding control makes its own ideal welding conditions, Feb., p. 42
Spot welding theory and practice, Sept., p. 40
Spot welding with adhesives, Sept., p. 52
Stainless alloy reclaims eroded silver brazed parts, Feb., p. 57
Stainless steel, carbon welded in fabrication of centrifugal mills, Nov., p. 50
Stainless steel, is easily welded, Aug., p. 46
Stainless steel overlay increases turbine blade life, Sept., p. 29
Stainless steel vital in coil fabrication, Oct., p. 74
Stainless transit cars are resistance welded, Aug., p. 58
Stainless tubes joined to thick tube-sheet by Tig welding, Nov., p. 46
Stains eliminated by liquid fluxing, Nov., p. 65
Steel, aware of its competition, pleads its own case, July, p. 32
Steel frames cut building costs, Apr., p. 76
Steel takes the offensive, Nov., p. 62
Strength of fillet weld on angle, how to determine, March, p. 36
Stress relief of pipe is simplified, Oct., p. 47
Stress relief with medium frequency induction heating offers precise heat control, mobility, July, p. 34
Studs, welded, help to double floor load capacity, Nov., p. 38
Stud-welding simplifies lawnmower mechanism, Sept., p. 72
Study by NEMA, Navy result in new electrode specification, Nov., p. 37
Submerged-arc boom used on nuclear unit, July, p. 31
Submerged-arc developed by Battelle Memorial Instutite, May, p. 78
Submerged-arc, Mig join wind tunnel parts, Dec., p. 37
Submerged-arc, Tig welding fabricate reforming units, Aug., p. 42
Submerged-arc welded land clearing blade uses T-1 steel, Apr., p. 46
Submerged-arc welded pipeline replaces wooden aqueduct, July, p. 46
Submerged-arc welding fabricates dam penstocks, March, p. 34
Submerged-arc welding lowers power piping costs, Oct., p. 50
Submerged-arc welding of large bridge girders, Feb., p. 38
Submerged-arc welding rebuilds tractor tracks, May, p. 46
Submerged-arc welding used on Minnesota bridge, Nov., p. 63
Super-sized bridge girders fabricated for Mt. Ranier National Park, Feb., p. 38
Surface hardening without hardfacing, Feb., p. 50
Surfacing problems solved by metal spray, Oct., p. 86
Apr., p. 75

T

Tank car has 21,700 gal capacity; is welded, March, p. 64
Swimming pool built by Mig welding,
Technician training in welding must increase, Aug., p. 37
Tee-joint design for piping, Oct., p. 33
Template drawings magnified for oxyacetylene cutting, May, p. 42
Testing welded pipe joints, Oct., p. 69
Tests on T-1 steel include submerged-arc, CO_2-Mig welding, Apr., p. 52
Theory and practice of spot welding, Sept., p. 40
Thin-wire CO_2 process allows fully automatic roll welding of pipe, Oct., p. 36
This mining equipment manufacturer handles a diversified product line-up, March, p. 30

AD INDEX

This advertisers' index is included as a convenience and is in no way a part of the advertising contract. Although every care has been taken to index accurately, some errors may have occurred and no allowance will be made for them.

Acro Welder Mfg. Co. 73
Air Reduction Sales Co. 49
Air Reduction Sales Co.
Tuffaloy Dept. 58
L. B. Allen Co., Inc. 76
Alloy Rods Co. 11
All-State Welding Alloys Co., Inc. 63
American Chain & Cable Co., Inc.
Page Steel & Wire Div. 15
Anti-Borax Compound Co. 74
Arc Spot Welder Div.
Guthery Machine Tool Corp. 64

Bastian-Blessing Co. 52
Bateman Foundry & Machine 76
Becker Brothers Carbon Co. 73
Bernard Welding Equipment Co. 5
Budd Co. Electronic Control Div. 19
Budd Co. Nuclear Systems Div. 26

Chicago Hardware Foundry Co. 76
Columbia Electric Mfg. Co. 75
Contour Sales Corp. 20
Curtiss-Wright Corp. 22

Dockson Corp. 72
Duro Engineering Co. 71

Eastman Kodak Co. 53
Eisler Engineering Co. 74
Electric Arc, Inc. 57
Eutectic Welding, Alloys Corp. 51

Gevaert Co. of America 23

Handy & Harman 14
Harrisburg Steel Co. 21
Hobart Bros. Co. 1, 2

International Nickel Co. 4

Jackson Products 9

Lenco, Inc. 75
Lincoln Electric Co. 12, 13
Linde Co. 68, 69

Manhattan Rubber Div. 29
Markal Co. 24
Merrill Brothers 63
Metal & Thermit Corp. 60, 61
Metalloy Products Co. 74
Miller Electric Mfg. Co., Inc. ....30, Back Cover

National Cylinder Gas
Div. of Chemetron Corp. 55
National Welding Equipment Co. 10
Norton Co. 25

Page Steel & Wire Division
American Chain & Cable Co., Inc. 15
Phelps Dodge Copper Products Corp. 16
Picker X-Ray Corp. 59
Pressed Steel Tank Co. 28

J. M. Ragle Industries, Inc. 74
Robvon Backing Ring Co. 75
Ruemelin Mfg. Co. 72

Shawinigan Products Corp. 58
A. O. Smith Corp. 65

Tempil Corp. ....Inside Front Cover
Tuffaloy Dept. of Airco 58
Tweco Products, Inc. ....Inside Back Cover

Victor Equipment Co. 6, 32

Webb Corp. 70
Welding Engineer 77
Weld-Record Corp. 71

Tig cutting boosts stainless steel sales, June, p. 74
Tig, Mig welding builds aluminum mine cars, July, p. 37
Tig, Mig welding used on aluminum gas lines, Apr., p. 94
Tig process gives all-copper weld for motor connections, Apr., p. 60
Tig torch, controlled angle, simplifies cabinet welding, Dec., p. 50
Tig welded insert ring helps increase pipe quality, Dec., p. 46
Tig welded liquid oxygen converters take over for high-altitude breathing, Feb., p. 29
Tig welding efficiency on reactor fuel elements upped from 99.75%, July, p. 40
Tig welding fabricates an aluminum duct, June, p. 76
Tig welding joins small stainless tubes to thick tube sheet, Nov., p. 46
Tig welding joins small stainless tubes to thick tube sheet, Nov., p. 46
Torch heating easily joins plastic pipe, Oct., p. 35
Towers built by flame-cutting, arc welding, Jan., p. 48
Tractor tracks rebuilt with submerged-arc, photoelectric controls, May, p. 46
Training of welding technicians must increase to meet demands, Aug., p. 37
Training weldors in a Chicago high school, Feb., p. 68
Transformer provides high current with low amperage, Aug., p. 61
Transit cars are resistance welded, Aug., p. 58
Tube cooling parts fabricated with aid of brazing, Dec., p. 57
Tube sheet joined by Tig welding to small stainless tubes, Nov., p. 46
Turbine runners redesigned for welding, Feb., p. 32
Twentieth anniversary celebrated by electrode manufacturer, Sept., p. 68
Two alloys give cutter head long-wearing teeth, Nov., p. 72
T-1 land clearing blade submerged-arc welded, Apr., p. 46
T-1 steel dipper takes 70-cu-yd bites, Apr., p. 42
T-1 steel, how to weld it, Apr., p. 38
T-1 steel proves its harmony with welding, Apr., p. 48
T-1 steel tested with submerged-arc, CO_2-Mig, Apr., p. 52

U

Ultrasonic, gamma, X-ray inspect vital nuclear reactor components, June, p. 68
Ultrasonic testing is a fast, economical means of discovering weldment flaws, June, p. 40
Ultrasonics join reactor fuel elements, July, p. 41
Universities de-emphasize oxyacetylene courses, Aug., p. 40
Uses, production, properties of build-up electrodes, Feb., p. 40

V

Variety is the spice of this pipe shop's life, Oct., p. 40

W

Walls tumbled with powder-cutting torch, Jan., p. 60
Wear resistant overlay, fundamentals of, Mid-June, p. 5
Welded aluminum raft gets Coast Guard approval, May, p. 72
Welded aluminum elevators serve on first nuclear aircraft carrier, Sept., p 48
Welded cars travel on welded carriers, Nov., p. 43
Welded cylinders pass rigid tests for ICC approval, Nov., p. 80
Welded design, process control guarantee better products, Nov., p. 52
Welded insert ring (Tig) helps increase pipe quality, Dec., p. 46
Welded pipe joint testing, Oct., p. 69
Welded piping used in radiant heat systems, Oct., p. 70
Welded Wheel Excavator moves earth far and fast, Sept., p. 34
Welded pipe system for ice skating rink passes inspection, Janu., p. 40
Welded studs help to double floor load capacity, Nov., p. 38
Welded nickel steel vessels withstand pressure, impact without stress relief, Dec., p. 38
Welding and brazing in the piping industry, Oct., p. 31
Welding and concrete team up to construct Florida's newest home-building entry, Sept., p. 44
Welding applications of T-1 steel, Apr., p. 48
Welding, automation build Valiant, March, p. 50
Welding cuts cost 35%, increases torsion rigidity on redesigned lathe, Jan., p. 32
Welding fixtures of plastic are accurate, March, p. 40
Welding education, views from authorities, Aug., p. 33
Welding heat is chief factor in determining weld quality, Sept., p. 30
Welding heavy sections with electroslag, Jan., p. 46
Welding helps an "orange peel" dig in, March, p. 66
Welding helps raise Florida's first multi-story motel, March, p. 41
Welding helps support the ASM geodesic dome, March, p. 48
Welding industry records one billion dollar year despite prolonged steel strike, Mid-June, p. 14
Welding lends oil industry a hand in vessel construction, Aug., p. 42
Welding of cabinet simplified with controlled angle Tig torch, Dec., p. 50
Welding procedures for T-1 steel, Apr., p. 38
Welding, projection, fundamentals, Nov., p. 40
Welding show, convention in Los Angeles expected to draw 25,000, Apr., p. 35
Welding saves $1,000 in repair of drill press, May p. 74
Welding show attendance far short of estimate, June, p. 56
Welding speeds building of large space frames, May, p. 50
Welding stainless steel can be easy if proper process is chosen, Aug., p. 46
Welding used on bridge design winners, March, p. 29
Welding with oxyacetylene, its fundamentals, May, p. 38
Weldors trained at manufacturer's technical school, Aug., p. 39
Weldors trained by Chicago high school, Feb., p. 68
Weldors with training required for pipeline operation, Oct., p. 38
Weld removal on jet tail cones by arc-air torch proves economical, Nov., p. 76
Weld time on brackets cut by flux, June, p. 58

X

X-radiation and gamma ray compared, June, p. 32
X-radiographs and gamma radiographs interpreted, June, p. 34
X-ray needs anticipated by manufacturers, June, p. 36
X-ray safety, how to establish a program for, June, p. 38
X-ray and gamma ray used in pipeline construction, Oct., p. 44
X-ray, gamma, ultrasonic inspect reactor components, June, p. 68
X-ray unit is basis of optimum inspection program, Sept., p. 43

Y

Yacht, welded, is do-it-yourself project, Dec., p. 40
Yacht which is all-welded competes in 800-mile race, Oct., p. 84

Z

Zirconium alloy tubes improve reactor design, May, p. 58